

IN THE CLAIMS:

Please amend the claims pursuant to 37 C.F.R. 1.121 as follows (see the accompanying "marked up" version pursuant to 1.121):

63. (Amended) An isolated galactose oxidase which has a mutation in at least one amino acid corresponding to an amino acid selected from the group consisting of A3, S10, M70, P136, G195, T218, L312, V494, C515, N535, N537, and S610 of SEQ ID NO:18 and N413 and S550 of SEQ ID NO:10.

546 (17) 64. (Amended) An isolated galactose oxidase which has at least one of the amino acid mutations corresponding to S10P, M70V, G195E, V494A, C515S, N535D, and N537D of SEQ ID NO:18 and N413D of SEQ ID NO:10.

B1 65. (Amended) The isolated galactose oxidase of claim 64, which has the amino acid mutation corresponding to N537D of SEQ ID NO:18.

66. (Amended) The isolated galactose oxidase of claim 64, which has the amino acid mutation corresponding to V494A of SEQ ID NO:18.

67. (Amended) The isolated galactose oxidase of claim 66, further comprising the amino acid mutation corresponding to C515S of SEQ ID NO:18.

68. (Amended) The isolated galactose oxidase claim 66, further comprising the amino acid mutation corresponding to S10P of SEQ ID NO:18.

69. (Amended) The isolated galactose oxidase of claim 66, further comprising a silent mutation at a position corresponding to P136 of SEQ ID NO:18.

sub C17
cont.
70. (Amended) The isolated galactose oxidase of claim 68, further comprising a silent mutation at a position corresponding to P136 of SEQ ID NO:18.

71. (Amended) The isolated galactose oxidase of claim 66, further comprising the amino acid mutation corresponding to G195E of SEQ ID NO:18.

72. (Amended) The isolated galactose oxidase of claim 71, further comprising a silent mutation in at least one of positions corresponding to A3 and P136 of SEQ ID NO:18.

73. (Amended) The isolated galactose oxidase of claim 66, further comprising the amino acid mutation corresponding to N535D of SEQ ID NO:18.

74. (Amended) The isolated galactose oxidase of claim 73, further comprising a silent mutation in at least one of positions corresponding to P136, L312, and T218 of SEQ ID NO:18.

75. (Amended) The isolated galactose oxidase of claim 66, further comprising the amino acid mutation corresponding to M70V of SEQ ID NO:18.

Sub C17
cont. 76. (Amended) The isolated galactose oxidase of claim 75, further comprising a silent mutation at a position corresponding to P136 of SEQ ID NO:18.

77. (Amended) The isolated galactose oxidase of claim 64, which has the amino acid mutations corresponding to S10P, M70V, G195E, V494A and N535D of SEQ ID NO:18.

78. (Amended) The isolated galactose oxidase of claim 77, further comprising a silent mutation at a position corresponding to P136 of SEQ ID NO:18.

79. (Amended) The isolated galactose oxidase of claim 64, which has the amino acid mutation corresponding to N413D of SEQ ID NO:10.

80. (Twice amended) The isolated galactose oxidase of claim 79, further comprising a silent mutation at a position corresponding to S550 of SEQ ID NO:10.

81. (Amended) The isolated galactose oxidase of claim 66, further comprising the amino acid mutation corresponding to N413D SEQ ID NO:10.

82. (Amended) The isolated galactose oxidase of claim 81, further comprising a silent mutation in at least one of a position corresponding to S550 and S610 of SEQ ID NO:10.

83. (Amended) An isolated galactose oxidase which has a mutation in at least one amino acid corresponding to a position selected from the group consisting of A3, S10, M70, P136, T218, L312, C515, N535, N537, S550, and S610 of SEQ ID NO:18 and N413 of SEQ ID NO:10.

84. (Amended) The isolated galactose oxidase of claim 83, further comprising at least one amino acid mutation corresponding to a mutation selected from the group consisting of G195 and V494 of SEQ ID NO:18.

85. (Amended) The isolated galactose oxidase of claim 83, wherein the mutation is selected from a mutation corresponding to one of the group consisting of

S10P, M70V, C515S, N535D, and N537D of SEQ ID NO:18 and N413D of SEQ ID NO:10.

86. (Amended) The isolated galactose oxidase of claim 85, further comprising at least one amino acid mutation corresponding to a mutation selected from the group consisting of G195E and V494A of SEQ ID NO:18.

87. (Amended) An isolated galactose oxidase which has a mutation in an amino acid corresponding to N537 of SEQ ID NO:18.

88. (Amended) The isolated galactose oxidase of claim 87, wherein the mutation is N537D.

89. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494 and C515 of SEQ ID NO:18.

90. (Amended) The isolated galactose oxidase of claim 89, wherein the mutations are V494A and C515S.

91. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494 and P136 of SEQ ID NO:18.

92. (Amended) The isolated galactose oxidase of claim 91, wherein the V494 mutation is V494A.

93. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494, P136, and S10 of SEQ ID NO:18.

94. (Amended) The isolated galactose oxidase of claim 93, wherein the V494 mutation is V494A, and the S10 mutation is S10P.

95. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494, P136, G195, and A3 of SEQ ID NO:18.

96. (Amended) The isolated galactose oxidase of claim 95, wherein the V494 mutation is V494A, and the G195 mutation is G195E.

97. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494, P136, L312, N535, and T218 of SEQ ID NO:18.

98. (Amended) The isolated galactose oxidase of claim 97, wherein the V494 mutation is V494A, and the N535 mutation is N535D.

99. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494, P136, and M70 of SEQ ID NO:18.

100. (Amended) The isolated galactose oxidase of claim 99, wherein the V494 mutation is V494A, and the M70 mutation is M70V.

S10 cont.
101. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to V494, S10, P136, M70, G195, and N535 of SEQ ID NO:18.

102. (Amended) The isolated galactose oxidase of claim 101, wherein the V494 mutation is V494A, the S10 mutation is S10P, the M70 mutation is M70V, the G195 mutation is G195E, and the N535 mutation is N535D.

103. (Amended) An isolated galactose oxidase which has a mutation in an amino acid corresponding to N413 of SEQ ID NO:10.

104. (Amended) The isolated galactose oxidase of claim 103, wherein the mutation is N413D.

105. (Amended) An isolated galactose oxidase which has a mutation in amino acids corresponding to N413 and S550 of SEQ ID NO:10.

106. (Amended) The isolated galactose oxidase of claim 105, wherein the N413 mutation is N413D.

107. (Amended) An isolated galactose oxidase which has a mutation in amino acids corresponding to N413 of SEQ ID NO:10, and S550 and V494 of SEQ ID NO:18.

108. (Amended) The isolated galactose oxidase of claim 107, wherein the N413 mutation is N413D, and the V494 mutation is V494A.

109. (Amended) An isolated galactose oxidase which has mutations in amino acids corresponding to N413 of SEQ ID NO:10, and S550, V494, and S610 of SEQ ID NO:18.

110. (Amended) The isolated galactose oxidase of claim 109, wherein the N413 mutation is N413D, and the V494 mutation is V494A.

111. (Amended) An isolated galactose oxidase having an amino acid sequence selected from the group consisting of SEQ ID NOS: 10-21.